CLAIMS

1. A method for measuring or trimming, respectively, the impedance of driver devices provided in a semiconductor device, wherein a device including each a pull-up circuit and a pull-down circuit is used, the method comprising:

joint activating both the pull-up circuit and the pull-down circuit; and

determining a first current flowing through the pull-up circuit or the pull-down circuit, respectively, with jointly activated pull-up and pull down circuits.

2. The method according to claim 1, wherein the pull-up or pull-down circuits, respectively, are connected to a supply voltage pad or a ground connection, respectively, of the semiconductor device, and the method further comprising:

joint de-activating both the pull-up circuit and the pull-down circuit; and

determining a standby current flowing between the supply voltage pad and the ground connection with jointly de-activated pull-up and pull down circuits.

3. The method according to claim 2, wherein the pull-up or pull-down circuits, respectively, are connected to a voltage supply pad or a ground connection, respectively, of the semiconductor device, and the method further comprising:

joint activating both the pull-up circuit and the pull-down circuit; and

determining a total current flowing between the supply voltage pad and the ground connection with jointly activated pull-up and pull-down circuits.

4. The method according to claim 3, further comprising determining the first current by deducting the standby current from the total current.

5. The method according to claim 1, further comprising:

determining a voltage dropping over the pull-up and/or pull-down circuit, in particular with jointly activated pull-up and pull-down circuits.

6. The method according to claim 1, further comprising:

determining a voltage dropping over the jointly activated pull-up and pull-down circuits.

7. The method according to claim 1, wherein one or several of the method steps are performed several times in sequence, each with different settings of transistors contained in the pull-up or pull-down circuits, respectively.

8. The method according to claim 1, the method comprising:

determining a total impedance of the pull-up and pull-down circuits.

9. The method according to claim 1, wherein, on the basis of a total impedance determined or the first current determined, respectively, and a voltage dropping over the pull-up and/or pull-down circuit as determined, that setting is selected that is to be used during regular operation of the device.

10. The method according to claim 1, wherein the device is a driver device used for the driving of output signals during the regular operation of the semiconductor device.

11. The method according to claim 1, wherein the device is a test device not used for the driving of output signals during the regular operation of the semiconductor device.

12. The method according to claim 11, wherein the test device is connected with a device provided on the semiconductor device itself, by means of which a voltage dropping over the pull-up and/or pull-down circuit is determined.

13. A semiconductor device testing apparatus for performing a method for measuring and trimming the impedance of driver devices provided in a semiconductor device, wherein the semiconductor device uses a pull-up circuit and a pull-down circuit, the apparatus comprising:

means for joint activating of both the pull-up circuit and the pull-down circuit in the semiconductor device; and

means for determining a first current flowing through the pull-up circuit or the pull-down circuit, respectively, with jointly activated pull-up and pull-down circuits.

14. The semiconductor device testing apparatus according to claim 13, wherein the pull-up circuit and the pull-down circuit are activated by the testing apparatus by a test mode circuit provided on the semiconductor device being triggered such that it causes an activation of the pull-up circuit and the pull-down circuit.

15. A semiconductor device testing system comprising:

a testing apparatus including:

means for joint activating of both the pull-up circuit and the pull-down circuit in the semiconductor device;

means for determining a first current flowing through the pull-up circuit or the pull-down circuit, respectively, with jointly activated pull-up and pull-down circuits; and

at least one semiconductor device to be tested by the testing apparatus.

16. A semiconductor device comprising:

a test mode circuit that, after receiving a corresponding trigger signal from a semiconductor device testing apparatus, causes a joint activation of both a pull-up circuit and a pull-down circuit of a device, wherein the semiconductor device testing apparatus includes:

means for joint activating of both the pull-up circuit and the pull-down circuit in the semiconductor device; and

means for determining a first current flowing through the pull-up circuit or the pull-down circuit, respectively, with jointly activated pull-up and pull-down circuits.